

ORGANIC NONLINEAR OPTICAL MATERIAL AND NONLINEAR OPTICAL ELEMENT

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Abstract

PURPOSE: To increase the nonlinear optical constant of the titled material and element by using a specific imine compd.

CONSTITUTION: The compd. expressed by formula I is used as the org. nonlinear optical material. In formula, X, Y denote amino, amide, alkoxy, etc., R<1> denotes H, alkyl, aryl, etc.; R<2>-R<9> denote H, aryl, halogen, etc. The element constituted by forming a thin film consisting of the compd. expressed by formula in a light guide is used for the nonlinear optical element. The formation of the thin film of the imine compd. expressed by formula (e.g.: the compd. expressed by formula II) can be executed by a resistance heating vapor deposition method, etc. This compd. has the large nonlinear optical constant, is stable and allows easy formation of the thin film and, therefore, the high-performance optical element is obtainable.